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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Kosuke Fujiwara

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EXAMINER

PARVINI, PEGAH

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,602	Applicant(s) FUJIWARA ET AL.	
	Examiner PEGAH PARVINI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
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| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-9 and 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The interpretation of the language of the above claims suggests that the glass flakes comprises metal oxide crystals; as noted in the previous Office Action, as it is well settled in the art, glasses cannot have crystals. Therefore, said claims are indefinite.

It is noted that claims 9 and 22-26, either directly or indirectly depends on claim 8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,649,360 to Weaver in view of US Patent No. 5,753,371 to Sullivan et al.

Regarding claims 1-3, Weaver teaches glass-ceramics having approximately 35 to 60 parts by weight of Fe_2O_3 , 3.5 to 20 parts by weight of Li_2O and 10 to 60 parts by weight of SiO_2 (Abstract; column 2, lines 28-45).

Although the reference is silent to the formation of said glass-ceramics into flakes, it would have been obvious to modify Weaver in order to obtain said glass-ceramics in flakes form motivated by the fact that Sullivan et al., drawn to pearlescent glass pigment, disclose that flakes form of glass is desirable in the industry because they are very resilient and can be optically attractive as well (column 2, lines 28-35).

With reference to the visible-light transmittance, it is to be noted that glasses having high content of iron oxide as that taught by Weaver would result in dark and black glasses which, as thick segments, would have low light transmittance; thus, thin flakes of them would have a higher transmittance.

With reference to the specific transmittance for the specified thickness as that recited in claim 1, it is noted that since the combination of references disclose a very similar glass composition as that specifically recited in instant claim 1, the property of the visible-light transmittance of 85% or lower as measured with an A light source when the glass flake has a thickness of 15 microns is taken to follow from the composition of the instant references absence evidence to the contrary.

Regarding claims 8-9, Weaver teaches glass-ceramics having approximately 35 to 60 parts by weight of Fe_2O_3 , 3.5 to 20 parts by weight of Li_2O and 10 to 60 parts by weight of SiO_2 (Abstract; column 2, lines 28-45). The reference discloses that said composition crystallizes (Abstract; column 2, lines 28-45), and the reference discloses that the crystals are ferrite type (column 4, lines 10-11, and 47-49).

Although the reference is silent to the formation of said glass-ceramics into flakes, it would have been obvious to modify Weaver in order to obtain said glass-ceramics in flakes form motivated by the fact that Sullivan et al., drawn to pearlescent glass pigment, disclose that flakes form of glass is desirable in the industry because they are very resilient and can be optically attractive as well (column 2, lines 28-35).

With reference to the visible-light transmittance, it is to be noted that glasses having high content of iron oxide as that taught by Weaver would result in dark and black glasses which, as thick segments, would have low light transmittance; thus, thin flakes of them would have a higher transmittance.

With reference to the specific transmittance for the specified thickness as that recited in claim 1, it is noted that since the combination of references disclose a very similar glass composition as that specifically recited in instant claim 1, the property of the visible-light transmittance of 85% or lower as measured with an A light source when the glass flake has a thickness of 15 microns is taken to follow from the composition of the instant references absence evidence to the contrary.

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Finally, the composition as that taught by Weaver crystallizes (Abstract; column 2, lines 28-45), and the reference discloses that the crystals are ferrite type (column 4, lines 10-11, and 47-49).

Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Sullivan et al. as applied to claim 1 above, and further in view of US Patent No. 6,340,646 to Nagashima et al.

Regarding claims 4-7, the combination of Weaver in view of Sullivan et al., as detailed above, disclose a composition of glass comprising approximately 35 to 60 parts by weight of Fe_2O_3 , 3.5 to 20 parts by weight of Li_2O and 10 to 60 parts by weight of SiO_2 which is desirable to be in flake form.

The combination of references, in particular Weaver, does not disclose an alkaline-earth metal oxide in said glass composition. However, the addition of certain amount of alkaline-earth metal oxides such as CaO and MgO in specific content ranges would have been obvious motivated by the fact that Nagashima et al., drawn to window glass of vehicle, disclose CaO and MgO in amounts in the range of 5 to 15% improves the durability of the glass and adjusts the devitrification temperature and viscosity of the glass during molding (column 4, lines 16-31). Thus, it would have been obvious to combine Nagashima et al. with the combination of Weaver and Sullivan et al. to meet the limitation of claims 4-7.

Claims 12-13 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Sullivan et al., as applied to claims 1 and 8 above, and in further view of JP05017710 to Fujita et al.

Regarding claims 12 and 13, the combination of Weaver in view of Sullivan et al., as detailed above, disclose a composition of glass comprising approximately 35 to 60 parts by weight of Fe_2O_3 , 3.5 to 20 parts by weight of Li_2O and 10 to 60 parts by weight of SiO_2 which is desirable to be in flake form.

The combination of references does not expressly disclose the use of metal oxides or any metal, as that claimed in instant claim 13, in a coating covering said glass flakes.

Fujita et al., drawn to paint composition, disclose successively coating the surface of a glass flake with silver and nickel to obtain flaky particles as metallic pigment (Abstract; [0004], [0020]).

Thus, it would have been obvious to one of ordinary skill in the art to have modified Sakaguchi et al. in view of Sullivan et al. in order to include a surface coating of a metal such as silver and nickel as that taught by Fujita et al. motivated by the fact that each metal, silver and nickel, provide a specific tone to the paint such as silver tone and dark tone which would result in a desirable medium tone; furthermore, this coating on the glass flake will exhibit strong glitter effect (Abstract).

Claims 12, 14, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Sullivan et al., as applied to claims 1 and 8 above, and in further view of US Patent No. 3,331,699 to Marshall et al.

Regarding claims 12 and 14, the combination of Weaver in view of Sullivan et al., as detailed above, disclose a composition of glass comprising approximately 35 to 60 parts by weight of Fe_2O_3 , 3.5 to 20 parts by weight of Li_2O and 10 to 60 parts by weight of SiO_2 which is desirable to be in flake form.

Although the references disclose the use of metal oxides in the glass flakes, they do not expressly disclose the use of said oxides in a coating covering said glass flakes.

Marshall et al. teach coating metal oxides such as zirconium dioxide, chromium oxide and the like, especially titanium dioxide on the glass flakes to provide improved sparkle and intense interference colors (column 2, lines 42-65; column 13, lines 64-75; column 14, lines 1-11).

Thus, it would have been obvious to one ordinary skill in the art to modify Sakaguchi et al. in view of Sullivan et al. in order to expressly disclose coating glass flakes with metal oxides as that taught by Marshall et al. motivated by the fact that such coatings provide improved effects on the glass flakes (column 2).

Claims 1, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 20000323071 to Komori et al. in view of Sullivan et al.

Regarding claims 1 and 10-11, Komori et al. teaches glass composition having 0.2 to 10 wt% of Fe₂O₃ and 0.015 and 0.08 weight ratio of Fe²⁺ to Fe³⁺ and 48-58wt% of SiO₂, 0-5wt% of MgO and some other components (Abstract).

Although the reference is silent to the formation of said glass into flakes, it would have been obvious to modify Weaver in order to obtain said glass-ceramics in flakes form motivated by the fact that Sullivan et al., drawn to pearlescent glass pigment, disclose that flakes form of glass is desirable in the industry because they are very resilient and can be optically attractive as well (column 2, lines 28-35).

With reference to the visible-light transmittance, it is to be noted that glasses having high content of iron oxide as that taught by the reference would be expected to be dark and black glasses which, as thick segments, would have low light transmittance; thus, thin flakes of them would have a higher transmittance.

With reference to the specific transmittance for the specified thickness as that recited in claim 1, it is noted that since the combination of references disclose a very similar glass composition as that specifically recited in instant claim 1, the property of the visible-light transmittance of 85% or lower as measured with an A light source when the glass flake has a thickness of 15 microns is taken to follow from the composition of the instant references absence evidence to the contrary.

Furthermore, a redox value in the range as that recited in claim 11 would have been obvious motivated by the fact that the amount of iron reduced during the process of melting and molding would depend on many factors including the firing temperature and the reducing agent.

Response to Amendment

Applicants' amendment to claim 1-2, and 8, filed June 24, 2008, are acknowledged. However, said amendments do not place the application in condition for allowance.

Response to Arguments

Applicants' arguments filed June 24, 2008 have been fully considered but they are not persuasive with regards to the rejection of claims 8 and 9 under 35 USC 112-second paragraph.

Instant application and claims recite a glass composition, and glasses as known in the art, do not have crystals.

Applicants' arguments with respect to claims 1-7 and 10-11 over Sakaguchi et al. have been considered but are moot in view of the new ground(s) of rejection.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEGAH PARVINI whose telephone number is (571)272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. P./
Examiner, Art Unit 1793

/Jerry A Lorengo/
Supervisory Patent Examiner, Art
Unit 1793